

## CLIMATOLOGICAL DATA FOR FEBRUARY, 1912.

## DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

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## GENERAL SUMMARY.

Over the southern half of the district the month was the coldest February since 1905; elsewhere more moderate conditions obtained, the weather being milder than usual in western Minnesota and the North Dakota area. The feature of the month was the occurrence of two severe storms in the southern part of the district. They will rank among the severest in many years. The first storm, that of the 20th-21st, affected only southern Illinois and the Indiana area, but the one of the 25th-26th took a more northerly course, extending as far northward as southern Wisconsin. The first storm was most severe over the region immediately to the north, east, and south of St. Louis, Mo., the snowfall in places amounting to 16 inches. Exceedingly high winds accompanied the snow, which drifted badly. In some localities the drifts were 9 feet in depth. Street-car service was interfered with and railway traffic was completely demoralized. In some cases passenger trains were as much as 24 hours late, and many trains were stalled for the same length of time. The storm of the 25th-26th was severest over southern and eastern Iowa, northern Illinois, and southern Wisconsin. More than a foot of snow fell over large areas, and the effects on traffic conditions were similar to those of the preceding storm. In some instances country roads in Iowa were impassable for two or three days.

The month was a dry one over all the district, except those parts of it where the precipitation of the two storms mentioned was heavy. In the north but little precipitation fell at any time within the month.

As a result of the low temperature and stormy weather in the southern part of the district, building operations were delayed, shipments of perishable goods were hindered, and wheat in fields is said to have been injured by ice and water.

The following table presents in condensed form the leading features of climatological interest for the several parts of the district.:

Parts of States within district No. 5.	Temperature.				Precipitation.					Average number days with rain.
	Mean.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Average snow-fall.	
North Dakota.....	10.1	+4.9	45	-33	0.13	-0.31	0.40	0.00	1.4	2
Minnesota.....	10.6	+0.3	50	-41	0.22	-0.55	0.70	0.00	2.7	3
South Dakota.....	14.4	+1.8	49	-20	0.70	-0.72	0.07	0.07	0.5	1
Wisconsin.....	11.8	-2.8	47	-44	0.64	-0.46	1.75	0.03	6.7	4
Iowa.....	17.5	-1.6	57	-30	1.16	+0.02	2.40	0.10	9.8	5
Missouri.....	25.1	-3.6	61	-12	1.62	-0.41	2.09	0.79	9.1	6
Indiana.....	20.2	-3.4	52	-20	1.79	-0.84	2.16	1.32	15.7	10
Illinois.....	22.1	-3.7	63	-24	1.57	-0.62	4.25	0.56	11.5	6

## TEMPERATURE.

The means of the 300 stations that reported give an average of  $15.3^{\circ}$ , or  $1.5^{\circ}$  less than the normal. In the North Dakota area and western Minnesota the month was not so cold as usual, but elsewhere the deficiency in temperature was general, being greatest in southern Illinois, where it averaged more than  $5^{\circ}$  a day. The mean temperature was below the freezing point at all stations, except Cairo, Ill., where it was just  $32^{\circ}$ . In the coldest parts of the district, including northern Wisconsin, northern Minnesota, and northeastern North Dakota, the mean temperatures were less than  $10^{\circ}$ , Bagley, Minn., reporting the lowest average,  $2.5^{\circ}$ .

The first decade was decidedly cold throughout the district, the minimum temperatures of the month occurring at that time in practically all cases. The coldest periods were those of the 2d-4th and 9th-10th, being of about equal severity so far as the minimum temperatures are concerned. The 3d was one of the severest days of the winter. No point in the district escaped zero temperature during the first decade, Cairo, Ill., reporting the highest minimum temperature,  $-2^{\circ}$ . Except for a brief interruption on the 21st and 22d, the period from the 14th to 24th, inclusive, was mild for the time of year, but not markedly so. On the 18th, which was one of the warmest days, the temperature rose to slightly above  $60^{\circ}$  in southern Illinois, Cobden and DuQuoin reporting  $63^{\circ}$ , the highest temperature for the month in the district. Fosston, Minn., was the only station at which the temperature did not rise above the freezing point at any time, the maximum there being  $32^{\circ}$ .

The closing days of the month were decidedly cold for the season, and in some instances the low temperatures of the first decade were almost equaled.

## PRECIPITATION.

Over much of the district the month was a dry one, the precipitation being especially light in northern Iowa, most of Wisconsin, Minnesota, and the North Dakota area. At many points in the regions named it was the driest February in many years; and the precipitation was less than an inch in all cases. None whatever occurred at Hinckley, Minn., and Wahpeton, N. Dak. The heaviest precipitation occurred in southern Illinois, where more than 3 inches was reported from some stations, the greatest being 4.25 inches, at Mount Vernon, Ill.

The storms of the 20th-21st and 25th-26th furnished a very large proportion of the month's precipitation. Besides those dates, precipitation was fairly general on the 1st, 13th-14th, and 24th. The precipitation of the 24th was in the form of rain, except in the north.

## RIVERS.

Over the colder parts of the district the streams and rivers remained frozen all month, ice of unusual thickness being reported. At the close of the month it was almost 3 feet thick at Moorhead, Minn., with lesser amounts to the southward. The Mississippi remained frozen along the Iowa bank. During the last week of February the river was open opposite St. Louis, except for heavy running ice, and navigation was resuming. The Ohio River at Cairo, Ill., fell from 29.3 feet on the 3d to 13.2 feet on the 20th and 21st; it then rose to a stage of 38.5 on the 29th. At the close of the month the interior streams of Illinois were well filled, and much water and ice were standing in the fields. A proposition to double the flow of water from Lake Michigan into the Drainage

Canal is meeting with much opposition along the Illinois River.

## MISCELLANEOUS.

There was a decided preponderance of northwesterly winds during the month. The movement was probably somewhat greater than usual over the southern third of the district, but about the normal elsewhere. The highest velocity reported was 52 miles an hour from the northeast, at Madison, Wis., on the 26th. For the district as a whole the sunshine was somewhat deficient, being about 50 per cent of the possible amount, or about 5 per cent less than the normal. The deficiency was greatest in the north. The average number of clear days was 10; partly cloudy, 8; cloudy, 11; with 0.01 inch precipitation or more, 4.



















TABLE 3.—*Maximum and minimum temperatures at selected stations for February, 1912. District No. 5—Continued.*

Date.	Hannibal, Mo.		Laporte, Ind.		Illinois.															
					Cairo.		Greenville.		La Salle.		Monmouth.		Mount Vernon, §§		Peoria.		Springfield.		Winnebago.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.	31	11	29	12	38	24	37	22	28	12	31	13	31	20	26	9	32	10	24	16
2.	20	1	23	9	28	17	22	6	12	—2	13	—5	21	10	10	—4	15	2	16	—7
3.	16	—9	9	—20	36	2	13	—7	3	—7	7	—4	22	10	4	—7	13	—5	—1	—15
4.	16	—10	5	—15	21	—2	9	—11	10	—7	9	—9	14	—11	11	—9	13	—9	8	—12
5.	16	6	16	—2	26	15	17	5	16	1	17	4	18	0	16	4	16	8	17	—3
6.	22	13	19	0	23	14	18	12	20	12	19	10	22	9	19	10	20	12	18	5
7.	24	14	25	12	42	18	29	15	23	9	22	10	35	14	23	8	26	14	20	4
8.	19	5	18	1	32	24	22	12	10	2	13	1	27	15	14	0	18	8	7	—7
9.	18	3	8	—3	26	16	20	5	9	—3	13	—5	21	9	13	—5	16	2	4	—12
10.	27	—3	12	—16	30	10	25	—2	20	—3	15	—6	27	5	21	—4	23	—1	15	—14
11.	35	19	23	—4	42	18	36	19	34	18	30	10	37	7	35	21	38	22	25	10
12.	30	16	23	9	34	24	28	19	22	8	28	14	30	21	27	14	28	17	17	6
13.	30	18	24	—8	39	21	32	11	28	5	29	10	35	10	28	10	30	12	20	—2
14.	36	26	35	11	47	29	41	26	33	24	36	23	43	13	35	24	38	27	35	19
15.	39	30	39	25	52	30	44	26	34	30	33	27	49	25	36	29	42	31	31	26
16.	46	27	32	26	51	34	45	27	33	27	33	26	52	25	31	26	38	28	31	25
17.	56	31	41	27	56	32	52	30	50	28	50	25	50	27	53	26	52	31	42	26
18.	56	31	46	30	59	37	54	34	48	31	49	28	48	38	48	29	52	35	43	28
19.	42	32	40	29	56	40	47	34	40	29	42	27	50	36	43	29	44	34	36	23
20.	32	29	35	22	40	32	34	29	33	26	30	25	37	30	32	26	34	28	35	19
21.	30	22	30	16	34	26	31	21	27	19	30	22	27	26	28	20	28	22	32	16
22.	38	17	22	12	34	25	30	14	27	10	32	9	21	17	28	10	29	14	23	6
23.	52	31	38	14	49	29	43	17	43	27	52	24	36	15	45	24	42	23	43	21
24.	44	36	44	28	46	38	45	34	41	35	42	34	46	21	43	34	45	35	40	32
25.	39	32	36	30	51	40	38	34	37	29	42	27	45	33	40	30	33	36	36	27
26.	32	17	37	26	53	30	39	23	29	11	28	17	42	35	30	11	36	18	27	13
27.	32	12	26	7	39	23	30	17	26	3	24	10	34	19	27	4	30	14	21	—7
28.	31	22	24	15	41	29	32	25	26	14	31	13	35	20	28	14	30	23	24	3
29.	24	14	18	10	32	26	29	20	18	7	23	4	31	21	20	8	25	17	15	0
Mns.	32.2	17.0	26.8	10.4	39.9	24.2	32.5	17.8	20.9	13.6	28.4	12.9	34.0	17.9	28.1	13.5	30.8	17.4	24.3	8.5

■, □, ▲, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.